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Welcome to CENIC Today, the monthly newsletter of the Corporation for Education Network Initiatives in California.

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CENIC News

President's Message

The title of this month's message could be "history repeats itself" or the often quoted "déjà vu all over again". The State, the educational community in California, CENIC and K12 are at a cross roads. We are exactly where CENIC was in year 2001 when there were discussions about whether the combine the 4CNet network supporting production traffic for the Community Colleges and the CSU and the CalREN network operated by CENIC. At that time, there were concerns that CENIC couldn't both operate a network attuned to the needs of the highest level of production availability, an objective expressed by the CSU and Community Colleges, and a network that met the needs of the research institutions, the University of California, Caltech, Stanford and USC. In part through the wonders of technology, in this case dense wave division multiplexing, we approached the challenge of satisfying multiple objectives by implementing multiple networks with slightly different objectives. More importantly, CENIC embraced the Community Colleges and the CSU and has strived to treat high quality production networking as an equal to that of high end research networking. Admittedly somewhat biased, I think we've succeeded. In fact, I've recently said that I think CENIC is the most successful intersegmental project in the history of California education. In saying so, I'm giving credit to our Board and the leadership of the different higher education segments who felt they had more to gain by participating in a joint effort through CENIC, at the risk of losing control, than going it alone.

The state and the K12 leadership in the state are grappling with whether and how K12 continues to participate in CENIC. The dynamic isn't much different from that in 2001, but the players are different and in many cases, based on their responsibilities, more distant in the sense that the Superintendent of Public Instruction, the Secretary of Education, the Administration and the legislature are not as close to issues of operating networks as those in the CCC, the CSU and the research institutions who were discussing the same types of issues of collaboration in 2001. As many other states have implemented statewide education networks, often funded directly from the State, it seems odd that California, the supposed leader in technology, has such a difficult problem with the notion of one education network. Part of the difficulty is trying to explain to those who are appropriately grappling with balancing the State budget how both teachers and students benefit from networking, even though we cannot quantify the answer by being able to explain

today how networking contributes to higher test scores. Part of the difficulty lies in the separate funding of the segments and the focus of current discussions on the equity of the shares of CalREN funding among the various segments. Part of the difficulty lies in explaining why K12 is better served by joining with the other segments rather than operating and controlling a K12 specific network. I'm hoping that two years from now I'm looking back at this period and musing on how the "State" made the right decision and how K12 began to participate in CENIC and CalREN exactly as do the other segments. Stay tuned. I'll give you an update two years from now.

Source: Jim Dolgonas, CENIC

NOC Report

Campuses continue to provide CENIC feedback through the Customer Satisfaction Surveys. Here is a summary of the second month's responses: Since the previous survey summary, there have been 174 resolved tickets. Of these tickets, we've received 19 completed surveys (approximately 11% return rate). The major findings:

- Most respondents (18 out of 19) were satisfied with service, with 15 of the 19 reporting that they were "very satisfied."
- Only one respondent reported being dissatisfied with service. In this case, the campus had provided our NOC with advance notice of campus maintenance, but was still contacted when the maintenance set off alarms in the monitoring system. There has since been a review with staff of proper procedures for logging maintenance notices such as this, and staff has been reminded to check for such notices in the future
- All respondents other than this one (18 out of 19) expressed satisfaction with the timeliness of NOC communications regarding status.

We thank all who continue to take the time to respond to this short survey. We encourage everyone to do so whenever you are prompted. We will continue to monitor responses daily, contact respondents as requested, and assess completed responses on a monthly basis.

Source: Sherilyn Evans, CENIC

UCLA 10GE Upgrade

UCLA has placed an order with CENIC to upgrade its CalREN/HPR connection to a 10-gigabit Ethernet. Implementation is expected this summer.

"Upgrading our HPR path to 10GE will enable us to continue providing cutting-edge network support to UCLA's numerous research centers, labs, and institutes," said Michael Van Norman, Manager of Network Engineering and Operations.

UCLA will be the second campus to upgrade to 10-gigabit Ethernet connectivity to CalREN.

Source: Brian Court, CENIC

Campus Access Infrastructure Project Update

The Campus Access Infrastructure Initiative (CAI) is a CSU system-wide program that will greatly improve CSU campus and other CSU site connectivity to the CalREN backbone.

Circuit orders have been placed for the first cohort of eleven campuses, all of which have a target install date this calendar year. A second group of campuses for whom circuits will need to be ordered is being finalized. CENIC's Director of Infrastructure, Greg Scott, has the lead on working through all the details needed to bring dark fiber to those campuses slated for a CENIC managed fiber connection.

In order to manage this large scale undertaking, CENIC brought together a project team consisting of teams from the CSU, SBC, fiber providers and construction contractors. Schedule information is not yet available but will be posted online in the near future. For project information, please contact Ed Smith, esmith@cenic.org .

Source: Ed Smith, CENIC

Network Documentation Project

Extensive documentation on CENIC's optical network is now available online at http://doc.cenic.org/. A variety of tools, developed by CENIC's Core Network Engineer Heather Sherman, describe CENIC's optical backbone, wave topology, and last-mile optical connectivity.

Ongoing work will add more information to this repository.

Source: Brian Court, CENIC

CalREN Video Services New Scheduling Software Pilot

CVS will begin testing software in May that will allow video conference administrators at each CVS site to schedule video conferences themselves. The CVS Oversight Committee has recommended utilizing Polycom's PCS software for this purpose, citing compatibility with existing MCU hardware, functionality, and low cost as key factors in their decision.

Pilot sites are slated to begin using the software in June, and it is expected that most campus staff will receive training and begin using the scheduling system over the summer of 2005. If you have any questions about the scheduling software for videoconferencing services, please contact Kelly Stack at kstack@cenic.org .

Source: Sherilyn Evans, CENIC

Initial Aurora Coachella Service Activated

Installation of CalREN Palm Desert Hub Site on CSUSB-PDC Campus

On March 28th, CENIC "lit" the first Gigabit Ethernet connection to the Coachella Valley of California by establishing connectivity between the CENIC backbone and the Palm Desert campus of CSU San Bernardino. Less than one week later, another Gigabit Ethernet connection was turned on – this one in time for the dedication of the Heckmann Center for Entrepreneurial Management of UC Riverside – also in Palm Desert. Work is proceeding on the subsequent phases of this project, termed Aurora Coachella.

In September 2004, the H.N. and Frances C. Berger Foundation made a $ 3.4 million dollar grant to CENIC for the initial phase of this project. The goals of this phase are to develop network infrastructure to and within the Coachella Valley that will create dual fiber network paths to the CalREN backbone at Riverside and San Diego, and to implement the first portions of a Valley-wide fiber Metropolitan Area Network (MAN) that will upgrade the Valley's educational institutions to fiber-based Gigabit Ethernet connectivity and other networks.

The Aurora Coachella project has built on the Berger Foundation's longstanding support to the Palm Desert campus of CSU San Bernardino by installing a CalREN hub site on the CSUSB-PDC campus. The hub site's connection to Riverside is now active; the second connection to San Diego will follow this summer.

MAN construction is also underway. The College of the Desert and the Riverside County Office of Education will be connected through to the hub site as that construction completes this summer. CSUSB-PDC will employ this infrastructure to deploy GigE connections to Chapman University and Eisenhower Hospital to complete Phase 1 work.

Source: Greg Scott, CENIC

NASA Ames Fiber Construction Completes

CENIC has completed construction of a ten mile long, 72 strand fiber optic cable between the CalREN Sunnyvale hub site and the NASA Ames Research Center at Moffett Field in Mountain View. The first application for this fiber will be the interconnection of the Ames network to the CalREN-HPR network at Gigabit Ethernet with an upgrade to a 10 Gigabit connection under discussion.

In addition to serving NASA's high performance network requirements, this fiber represents an investment by CENIC in establishing a robust infrastructure directly to current and future tenants of the NASA Research Park adjoining NASA Ames on the former Moffett Field Naval Air Station. UCSC, SJSU, Carnegie Mellon and Lockheed Martin now occupy space in the Research Park.

Source: Greg Scott, CENIC

UC Merced Fiber Construction Nears Completion

In support of the opening of the newest UC campus in Merced, the UC has contracted with CENIC for the installation of thirty miles of fiber optic cabling to interconnect the UC Merced Administration facility at Castle Airfield with the new campus and with the current CalREN hub site at Fergus. One path is complete; the final two miles of the second path between Castle and the Level 3 facility will be completed in the next month.

Initial Gigabit Ethernet service to the UCM Administration building is active; service between Castle and the new campus and on to the hub site has been tested and is ready for the release of the new campus' Telecommunications Building for campus occupancy.

The roll-out of network services to the new campus will continue over the next 1-2 months as CENIC completes enhancements to the CalREN Central Valley backbone relating to UCM support.

Source: Greg Scott, CENIC

National Networking News

Students at UC Berkeley Using Tablet PCs for Collaborative Note-Taking

Since 2000, students in five classes at UC Berkeley from computer science and other departments have used Tablet PCs on an experimental basis. A team of faculty and graduate students is experimenting with the tablets to discover if they can enhance learning by increasing student engagement and facilitating live discussions in small groups during lectures.

The project is called Livenotes, which involves wirelessly networked Tablet PCs loaded with custom-built software that allows the notes that one team member writes to be seen in real-time by the other team members belonging to the same group. Students can exchange notes with group members using a shared white board and annotate the instructor's PowerPoint slides during an ongoing lecture.

Source: UCTLtC News, http://www.uctltc.org/news/2005/04/students.php

Joint Awards Extend Next-Generation Trans-Pacific Network

A ceremony on Saturday, April 2, 2005, in Tokyo, Japan, inaugurated TransPAC2, a high-speed international Internet service connecting research and education networks in the Asia-Pacific to those in the US. TransPAC2 is the 5-year continuation of the highly successful TransPAC project and will further National Science Foundation (NSF) efforts to provide fundamental network infrastructure to support international e-science collaborations among researchers worldwide.

James Williams, Principal Investigator at Indiana University for the TransPAC2 project, said, "We have seen an exponential growth in digitally enabled science and research collaboration between the US and Asia-Pacific since TransPAC began in 1998. TransPAC2 is a critical component in support of these kinds of collaborations. It enables scientists and researchers to form virtual international workgroups to successfully tackle difficult computational challenges and data exchange."

Source: I2-News, https://mail.internet2.edu/wws/arc/i2-news/2005-04/msg00000.html

Widespread Attack Cripples Computers with Spyware

An insidious new Internet attack that hijacks a victim's Internet connection and stealthily installs a barrage of adware and spyware is targeting businesses and organizations across the U.S.

It starts with an assault known as DNS poisoning: Domain name system servers, which guide Internet traffic, are fooled into directing anyone heading to any .com Web site - for example, www.cnn.com or www.americanexpress.com - to a malicious Web site that the attackers control. That Web site then surreptitiously installs a wide range of adware and spyware on the victim's computer.

Source: Network World Fusion, http://www.nwfusion.com/news/2005/0422widesattac.html

Sony Patent Takes First Step Towards Real-Life Matrix

Imagine movies and computer games in which you get to smell, taste and perhaps even feel things. That's the tantalizing prospect raised by a patent on a device for transmitting sensory data directly into the human brain - granted to none other than the entertainment giant Sony.

The technique suggested in the patent is entirely non-invasive. It describes a device that fires pulses of ultrasound at the head to modify firing patterns in targeted parts of the brain, creating "sensory experiences" ranging from moving images to tastes and sounds. This could give blind or deaf people the chance to see or hear, the patent claims.

Source: NewScientist.com, http://www.newscientist.com/channel/info-tech/mg18624944.600

Supercomputer Eavesdrops on Universe

Europe's biggest supercomputer will crunch data from thousands of radio antennae eavesdropping on the history of the universe, its Dutch developers and U.S. computer giant IBM said on Tuesday.

The computer, based in the northern Netherlands, will process signals from up to 13 billion light years from earth -- as far back in time as the beginnings of the earliest stars and galaxies after the formation of the universe.

"Unlike current observatories that use large optical mirrors or radio dishes to point to distant galaxies, ASTRON will harness more than 25,000 simple radio antennas," IBM and Netherlands Foundation for Research in Astronomy (ASTRON) said.

Source: CNN.com, http://www.cnn.com/2005/TECH/04/26/supercomputer.space.reut/index.html

Cars Link Up to Avoid Traffic

Picking up doughnuts on the way to work recently, George List slid back into the driver's seat and heard a voice from the cup holder suggest an alternate route.

List, director of Rensselaer Polytechnic Institute's Center for Infrastructure and Transportation Studies, co-heads a federally funded project examining a potential high-tech solution to highway congestion. Traffic is tracked through Global Positioning System devices in cars that are connected wirelessly. Drivers participating in the pilot project essentially act as highway probes, receiving continual feedback from in-car computers intoning commands like "Just ahead, turn right."

Source: USA Today, http://www.usatoday.com/tech/news/techinnovations/2005-04-25-smart-highways_x.htm

New FCC Chief Friendly to Schools

Kevin J. Martin, President Bush's choice to lead the Federal Communications Commission (FCC) into a new era of digital transmissions, is a firm supporter of the eRate and other telecommunications programs that benefit education, according to an analysis of his voting record and public statements he has made as an FCC commissioner.

That might bode well for schools, which have seen the eRate come under renewed scrutiny in recent months. Most recently, the embattled $2.25 billion-a-year program--which pays for up to 90 percent of the cost of telephone, internet, and wiring services for the nation's poorest schools and libraries--was the subject of a federal report criticizing the FCC for its lax oversight of the eRate

Source: eSchool News, http://www.eschoolnews.com/news/showStoryts.cfm?ArticleID=5609

Grant to Research Computer Security

A consortium of eight universities -- including the University of California-Berkeley, Stanford, San Jose State and Mills College -- has received a $19 million National Science Foundation grant for fundamental cyber-security research.

The funding, announced April 11, is to develop new technologies to protect the nation's computer systems from cyber-attacks while improving reliability. UC-Berkeley will lead the effort.

Source: The Mercury News, http://www.philly.com/mld/mercurynews/news/local/states/california/northern_california/11372866.htm

Computer and Internet Access Lead to Success in College

Home computers and Internet access are helping high school students stay enrolled, graduate and prepare for college at higher rates than students without these facilities, according to a series of studies by the Center for Justice, Tolerance and Community at UC Santa Cruz.

The 2003 study, "The Effects of Home Computers on School Enrollment," discovered that for every 100 teenagers age 16 to 18 without home computer access, 14 were not enrolled in high school. For households with computers, the study found for every 100 teenagers, four were not enrolled in high school.

Source: The Spartan Daily, http://www.thespartandaily.com/vnews/display.v/ART/2005/04/25/426dbd0c3f9bd

About CENIC

CENIC is a not-for-profit corporation serving California Institute of Technology, California State University, Stanford University, University of California, University of Southern California, California Community Colleges and the statewide K-12 school system.

CENIC's mission is to facilitate and coordinate the development, deployment and operation of a set of robust multi-tiered advanced network services for this research and education community.

More information about CENIC can be found at http://www.cenic.org.

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